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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,691	04/01/2004	Eric R. Blomiley	MI22-2510	1647
21567 7590 11/16/2007 WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			EXAMINER DHINGRA, RAKESH KUMAR	
			ART UNIT	PAPER NUMBER
			1792	
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			11/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/816,691	Applicant(s) BLOMILEY ET AL.	
	Examiner Rakesh K. Dhingra	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 9-30, 32, 33 and 37 is/are pending in the application.
- 4a) Of the above claim(s) 9, 10, 15-21, 23-29, 32 and 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-14, 22, 30 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/07</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-6, 8, 11-14, 22, 30, 34, 37, 40 and 161 have been considered but are moot in view of the new ground(s) of rejection as explained hereunder.

Applicant has amended claims 1, 22, 37 by adding new limitations (for example in claim 1 – “the radially extending uppermost surface” and “all of” etc).

Further, applicant has cancelled claims 8, 34-36, 38-40, 44 and 157-161.

New reference (US Patent No. 5,860, 640 – Marohi et al) when combined with Sinha et al reads on amended claim 1 limitations. Similarly, Marohi et al when combined with Fodor et al reads on amended claim 1 limitations. Accordingly claim 1 and dependent claims 2-6, 11-14, 22, 30 and 37 have been rejected under 35 USC 103 (a) as explained below.

Applicant's contention of rejoining the withdrawn claims is noted and the same would be considered as and when the generic claim 1 is in allowable form.

As regards double patenting rejection, since the co-pending application 11/399,889 has been abandoned, the double patenting rejection is withdrawn.

Applicant's IDS dated 8/16/06 (now submitted as new IDS dated 8/27/07) which was not considered previously has been considered and initialed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have

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been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinha et al (US Patent No. 5,882,419) in view of Marohi et al (US Patent No. 5,860,640).

Regarding Claim 1: Sinha et al teach an apparatus (Figures 1, 6) comprising:

A heater plate 18 (body of substrate support/susceptor) with a substrate receiving surface 26 and having a recess formed (by the raised guide receiving portion 222), the recess comprising an outer peripheral sidewall and a recess base and with the outer peripheral sidewall extending perpendicularly from the recess base;

A plurality of guide pins 224 (projections) extending outwardly from a portion of the face, and comprising radially inner sidewall (vertical portion of guide pin wall which extends outwardly from the recess outer peripheral sidewall to a projection radially extending uppermost upper surface), the radially inner sidewall comprising a portion which aligns with and extends outwardly from the recess outer peripheral sidewall perpendicularly relative to the recess base (column 13, line 5 to column 14, line 64). Sinha et al teach that plurality of guide pins 224 (projections) are used but do not explicitly teach that

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number of projections is at least three. However it would be obvious to use at least three projections for a circular wafer, to enable guide the wafer uniformly into the recess pocket. Therefore it would have been obvious to provide at least three projections in the apparatus of Sinha et al to enable guide the wafer uniformly into the recess pocket.

Sinha et al do not teach all of the radially inner sidewall extends outwardly from the recess outer peripheral sidewall to the radially extending uppermost straight surface perpendicularly relative to the recess base, and the projections respectively comprising a vertical outermost peripheral edge, the radially extending uppermost straight surface extending to an uppermost elevation which is aligned with the vertical outermost peripheral edge.

Marohi et al teach a substrate support comprising plurality of projections 40 having radially inner sidewall 44 that extends perpendicularly from the base of the susceptor to a radially extending uppermost surface, and a vertical outermost peripheral edge. Marohi et al further teach that the radially extending uppermost straight surface extends to an uppermost elevation which is aligned with the vertical outermost peripheral edge of the projection 40 (for example, Fig. 9 and column 6, lines 37-60).

Therefore it would have been obvious to one of ordinary skills in the art at the time of the invention to provide the projection with a vertical outermost peripheral edge as taught by Marohi et al in the apparatus of Sinha et al for ease of manufacture of the projection.

Sinha et al in view of Marohi et al do not teach all of the radially inner sidewall extends outwardly from the recess outer peripheral sidewall to the radially extending uppermost straight surface. However this claim limitation is related to shape and is matter of choice absent any disclosed criticality.

In this connection courts have ruled:

It was held in re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) that the shape was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular shape was significant.

Regarding Claims 2-4: Sinha et al teach that face 222 is annular and is substantially planar [Figure 6].

Regarding Claim 11: Sinha et al teach that guide pins 224 (projections) are received about a circle on the face portion 222 (Figure 6).

Regarding Claim 22: Marohi et al teach the projection outermost peripheral edge is received radially inward of the body outermost peripheral edge (Figure 9).

Claims 1-5, 6, 11-14, 30 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fodor et al (US Patent No. 7,024,105) in view of Marohi et al (US Patent No. 5,860,640).

Regarding Claim 1: Fodor et al teach a substrate support (Figures 2A, 2B, 8A, 9A-9D) comprising:

a body 804 having a substrate receiving side, the substrate receiving side comprising a face having a substrate receiving recess formed therein, the recess comprising an outer peripheral sidewall 814 and a recess base 816, the outer peripheral sidewall connecting with and extending perpendicularly from the recess base. Fodor et al also teach the ring 134 can be formed integrally with the body 804 (Figures 9A, 9B). Fodor et al further teach that the annular ring 134, instead of having a continuous lip 302, can also have plurality of crowns (like projections) {Figures 9C, 9D} and extend outwardly from a portion of the face, the crowns (projections) respectively comprising a radially inner sidewall 818 which extends outwardly from the recess outer peripheral sidewall 814 to lip 902 (like a projection upper surface). Fodor et al also teach radially inner sidewall comprising a portion (upper portion of wall 814) which aligns with and extends outwardly from the recess outer peripheral sidewall 814 (due to being formed integrally) perpendicularly relative to the recess base 816 (column 6, line 42 to column 7, line 18).

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Fodor et al do not teach all of the radially inner sidewall extends outwardly from the recess outer peripheral sidewall to the radially extending uppermost straight surface perpendicularly relative to the recess base, and the projections respectively comprising a vertical outermost peripheral edge, the radially extending uppermost straight surface extending to an uppermost elevation which is aligned with the vertical outermost peripheral edge.

Marohi et al teach a substrate support comprising plurality of projections 40 having radially inner sidewall 44 that extends perpendicularly from the base of the susceptor to a radially extending uppermost surface, and a vertical outermost peripheral edge. Marohi et al further teach that the radially extending uppermost straight surface extends to an uppermost elevation which is aligned with the vertical outermost peripheral edge of the projection 40 (for example, Fig. 9 and column 6, lines 37-60).

Therefore it would have been obvious to one of ordinary skills in the art at the time of the invention to provide the projection with a vertical outermost peripheral edge as taught by Marohi et al in the apparatus of Fodor et al for ease of manufacture of the projection.

Fodor et al in view of Marohi et al do not teach all of the radially inner sidewall extends outwardly from the recess outer peripheral sidewall to the radially extending uppermost straight surface. However this claim limitation is related to shape and is matter of choice absent any disclosed criticality.

In this connection courts have ruled:

It was held in re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) that the shape was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular shape was significant.

Regarding Claims 2-4, 6: Fodor et al teach that face 806 is annular and is substantially planar [Figures 8, 9A-9D].

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Regarding Claims 5: Fodor et al teach the substrate receiving recess 816 is annular (Figures 9C, 9D).

Regarding Claim 11: Fodor et al teach that crowns (projections) are received about a circle on the face portion 806 (Figure 9C).

Regarding Claims 12-14: Fodor et al teach width of crowns ranges from 1.5 to 5 mm and also teach that crowns can number from 3 to 12. Assuming the inner diameter of ring to be 200 mm (size of wafer), the circumference of ring would be approx 600 mm, and assuming the number of projections to be say 6, the projections would collectively occupy between 1.5 % to 5% of the circumference of the circle which meets the claim limitations of 3-10% (column 5, lines 32-45).

Regarding Claim 30: Fodor et al teach the recess outer peripheral sidewall 814 and the radially inner sidewall (formed integrally and extending from peripheral side wall) have a combined elevational length which is greater than thickness of a substrate 112 for which the susceptor is designed (Figure 9B).

Regarding Claim 37: Fodor et al teach the projection upper surface of crowns 902 (projections) has an uppermost elevation which is received higher than an uppermost surface of a substrate for which the susceptor is designed when said substrate is received by said recess 816 (Figure 9B).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action

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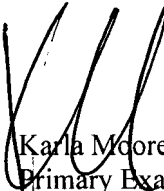
is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Rakesh K. Dhingra


Karla Moore
Primary Examiner
Art Unit 1792